RESIDENTIAL RE-PIPE

A plumbing permit is required to replace residential water supply (main water line from meter to the house) and distribution pipes (plumbing within the building). Permits are required prior to installation or replacement of any piping.

Permit Issuance
Most residential re-pipe permits can be obtained on-line at **www.e-OneStop.net.** Permits can also be obtained at the One-Stop Permit Center. Following are re-pipe requirements from the 2001 California Plumbing Code:

- Water pipes and fitting inside of the building shall be brass, copper, cast iron, galvanized malleable iron, galvanized wrought iron, galvanized steel, or other approved material. (Section 604)
- Water distribution pipes outside of the building can be brass, copper, cast iron, galvanized malleable iron, galvanized wrought iron, galvanized steel, or PVC. (Section 604)
- All materials used in the water supply system within the building shall be of like materials, except valves and similar devices, unless otherwise approved by the Chief Building Official. Following are acceptable methods of joining dissimilar materials:
    - When joining copper pipe to iron pipe, a 6" minimum brass nipple if recommended in lieu of a dielectric fitting.
    - When dielectric fittings are used to join dissimilar metals, listed clamps and a bonding jumper must be installed at all such connections. Bonding clamps are recommended to be a minimum of 6" from the dielectric fittings.
    - The point of connection between dissimilar materials without using the methods above must remain accessible (e.g. provide an access panel).
- If shear walls, braced wall panels, or firewalls are compromised or altered during the re-pipe, these areas are required to be inspected prior to covering.
- Non-removable backflow prevention devices are required on all hose bibs. (Section 603)
- Grounding of the electrical service is required with water service replacements (if using a less conductive material than is existing) and for all re-pipes. Grounding shall consist of a continuous grounding conductor run from the panel to a ground rod (grounding electrode) and to the cold water pipe. Grounding of the electrical service at the main water line must be within the first 5' of water piping into the building. The underground water service shall not be used as the sole grounding system; it must be supplemented with a ground rod.

For existing structures and additions not affecting the main electrical service panel location, the grounding electrode shall be nonferrous (copper), listed, and not be less than ½" in diameter. The electrode shall be installed such that at least 8' of length is in contract with the soil. The upper end of the electrode shall be flush with or below ground level unless the above-ground end and the grounding electrode conductor attachment is protected against physical damage.

The required grounding electrode conductor (from electrode to panel) size is listed in the following table:

GROUNDING ELECTRODE CONDUCTOR SIZING		
Size of Main Panel	**Copper Conductors**	**Aluminum or Copper-Clad Aluminum**
100 Amps	#8 AWG	#6 AWG
125 Amps	#8 AWG	#6 AWG
150 Amps	#6 AWG	#4 AWG
200 Amps	#4 AWG	#2 AWG

- Bonding of the hot, cold, and gas lines is required with water service replacements (if using a less conductive material than is existing) and for all re-pipes. Bonding shall consist of a continuous bond jumper installed at the water heater between the hot, cold, and gas lines. The bonding jumper size shall be equal to the grounding conductor size.

Inspections Required

Two inspections are required; a rough plumbing and a final. The rough plumbing inspection should be scheduled when the new plumbing pipes are installed and before any open walls are covered. The final inspection should be scheduled after all the work has been completed.

If you have any questions, please call the City of Sunnyvale Building Division at (408) 730-7444. Information is also available on the Building Division web site at: www.sunnyvalebuilding.com.